

Stern

MODEL HF/TR3 Mk. II COMPLETE TAPE AMPLIFIER

INCORPORATING 3 SPEED TREBLE
EQUALISATION BY MEANS OF THE
LATEST **FERROXCUBE POT
CORE INDUCTOR**

KIT OF PARTS £13.13.0

Terms, Deposit £2.15.0. 12 months of £1.1.0

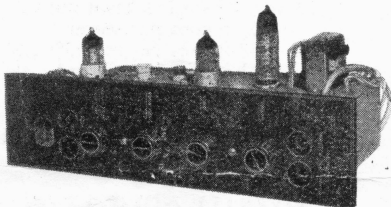
ASSEMBLED and TESTED £17.0.0

Terms, Deposit £3.16.0, 12 months of £19.1

Carriage and Insurance 7/6 extra

WHEN ORDERING PLEASE STATE TYPE
OF HEADS, MAKE OF DECK and
SPEED EQUALISATION REQUIRED

ALSO WHETHER BLACK or WHITE
PERSPEX PANEL IS REQUIRED



This high quality Amplifier is based entirely on the very successful "TYPE A" design completed in the MULLARD LABORATORIES, it is the best we have experienced in our opinion better than the Amplifiers incorporated in high priced commercially made Tape Recorders. We incorporate ONLY NEW HIGH GRADE COMPONENTS including MULLARD VALVES, true High Fidelity recordings are obtainable whilst "Hi Fi" reproduction is assured by the use of the latest GILSON OUTPUT TRANSFORMER.

THE FOLLOWING CONTROLS and INPUTS ARE PROVIDED :—

INPUT JACK 1. Used for recordings direct from a MICROPHONE, a CRYSTAL SET, a RADIO JACK, and LOW OUTPUT PICK-UPS.

INPUT JACK 2. Used for recording from a RADIO SET, a RADIO TUNER, or from any AMPLIFIER or PR-AMPLIFIER. Also Record Players having CRYSTAL OR MAGNETIC PICK-UPS.

VOLUME CONTROL. Adjusts the "RECORDING MODULATION LEVEL" on record and also acts as the volume control during playback, or when used as a straight Amplifier.

RECORD/PLAYBACK/AMPLIFIER SWITCH. A three position switch that is self explanatory. The Amplifier position is provided so that the amplifier may be used as a straight gramophone amplifier.

STONE CONTROL. Operative on Replay only . . . Variable Treble Attenuation.

EQUALISER SWITCH. A three position switch providing correct equalisation for $1\frac{1}{2}$, $3\frac{1}{2}$, $7\frac{1}{2}$ or alternatively $3\frac{1}{2}$, $7\frac{1}{2}$ or 15 in/sec speeds. It incorporates a resonant circuit containing the Ferroxcube Inductor.

RECORD LEVEL INDICATOR. This is a "Magic Eye" Recording Level Indicator and by observing it in conjunction with adjustment of the volume control, you can set the modulation level of your recording.

OUTPUT JACK 3. Used to connect an EXTENSION SPEAKER to the Amplifier.

OUTPUT JACK 4. MONITOR OR LOW LEVEL OUTPUT. Used for feeding a recorded tape to an external Amplifier to amplify the recorded signal for use in halls, etc. This Jack may also be used to monitor with high impedance headphones on record.

ADDITIONAL USES OF THE AMPLIFIER. In the AMPLIFIER position, any input applied to either Jack No. 1 or Jack No. 2 will be reproduced by the recorder speaker, thus it will be seen that the amplifier can be used as a GRAMOPHONE RECORD REPRODUCER, or for direct reproduction from a MICROPHONE, RADIO TUNER UNIT, CRYSTAL SET, RADIO JACK, Etc.

THE ASSEMBLY MANUAL INCLUDES CIRCUIT DIAGRAM
"POINT-TO-POINT" DRAWINGS, COMPONENT PRICE LIST ETC.

3/- plus 6d. P & P

TECHNICAL SPECIFICATION. MODEL HF/TR3 MkII TAPE AMPLIFIER

- **RECORDING SENSITIVITY.** Measured at 1 Kc/s. For the peak recording level of 80 Micro-amps.
JACK 1. MICROPHONE: 1 mV. Input impedance 2.2 Meg-ohm.
JACK 2. RADIO. 250mV. Input impedance 680 k-ohm.
- **REPLAY SENSITIVITY.** Measured at 5 Kc/s. For output power of 3 Watts of a low level output of 250 mV at Jack No. 4.
 - 1 $\frac{3}{8}$ inches per second ... 1.5 mV.
 - 3 $\frac{3}{8}$ inches per second ... 2.5 mV.
 - 7 $\frac{1}{2}$ inches per second ... 4.5 mV.
 - 15 inches per second ... 7.5 mV.
- **OSCILLATOR.** Brought into circuit on record. Frequency 51/54 Kc/s Hartley Type circuit.
- **OVERALL NOISE LEVEL.** 50 dB below signal at full output.
- **FREQUENCY RESPONSE.**
Replay characteristic to the specification of the International Consultative Committee (C.C.I.R.) at 7 $\frac{1}{2}$ in./sec.
Recording characteristic arranged to give flat frequency response in conjunction with this Replay characteristic.
Treble Boost incorporated during Record and Bass Boost during Replay. Separate equalisation provided for tape speeds of 7 $\frac{1}{2}$, 3 $\frac{3}{8}$, 1 $\frac{7}{8}$ or 15, 7 $\frac{1}{2}$ and 3 $\frac{3}{8}$ in./sec.
 - 15 in/sec \pm 3 dB relative to the level at 1 Kc/s from 35 c/s to 17 Kc/s.
 - 7 $\frac{1}{2}$ in/sec \pm 3 dB relative to the level at 1 Kc/s from 35 c/s to 15 Kc/s.
 - 3 $\frac{3}{8}$ in/sec \pm 3 dB relative to the level at 1 Kc/s from 40 c/s to 8 Kc/s.
 - 1 $\frac{7}{8}$ in/sec \pm 3 dB relative to the level at 1 Kc/s from 40 c/s to 6 Kc/s.
- **VALVE COMPLIMENT.**
 - V1. EF86 Input stage for Recording and Replay functions.
 - V2. ECC83 (a) On Record Equaliser and Output Stages.
(b) On Replay Equaliser Stage and A.F. Amplifier.
 - V3. EL84 (a) On Record Oscillator.
(b) On Replay Power Output.
 - V4. EM81 Magic Eye level indicator-Out of circuit on Replay.
 - V5. EZ81 Rectifier (located in Power-Pack).
 - MR1. OA81 Germanium Diode. Level Indicator rectifier.
- **MAINS TERMINATIONS ETC.**
MAINS 3 PIN BULGIN SOCKET—Mains ON/OFF Switch on Fly Leads from Power Unit. May be varied to suit different tape decks and cabinets.
- **GENERAL.**
DIMENSIONS OF AMPLIFIER CHASSIS 11 x 6 x 6 inches High.
Weight 4 lbs.
DIMENSIONS OF POWER UNIT TC/S1 7 $\frac{1}{2}$ x 3 x 4 $\frac{1}{4}$ inches High.
Weight 3 $\frac{3}{8}$ lbs.
DIMENSIONS OF CONTROL PANEL (Studio) 13 $\frac{3}{8}$ x 3 x $\frac{1}{8}$ inches Thick.
Polished Black Perspex with gold engraving.
- **OPERATION.** 200/250 Volts A.C. 50 c.p.s.
- **CONSUMPTION.** 50 WATTS.

Enquiries and Mail Orders to:—

STERN RADIO LTD.
6-12, TUDOR PLACE,
TOTTENHAM COURT ROAD,
LONDON, W.1
Tel MUSEum 6128/9

Demonstrations and Showrooms:—

STERN RADIO LTD.

109, FLEET STREET, E.C.4

Telephone: FLEet Street 5812/3

Hours of Business: Weekdays 9 a.m. to 6 p.m.
Saturday 9 a.m. to 1 p.m.

PREMIER RADIO

23, TOTTENHAM COURT ROAD,
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Open—9 a.m. to 6 p.m. - Thursday 1 p.m.